

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 151170/ECKR	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/NO 02/00261	International filing date (day/month/year) 12.07.2002	Priority date (day/month/year) 12.07.2002
International Patent Classification (IPC) or both national classification and IPC H04J3/08		
Applicant TELEFONAKTIEBOLAGET LM ERICSSON (PUBL) et al		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 7 sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 12.02.2004	Date of completion of this report 18.05.2004
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International application No. **PCT/NO 02/00261**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-5 received on 03.05.2004 with letter of 03.05.2004

Claims, Numbers

1-10 received on 03.05.2004 with letter of 03.05.2004

Drawings, Sheets

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents are referred to in this International Preliminary Examination Report:

D1: GB-A-2 310 971 (PLESSEY TELECOMM) 10 September 1997 (1997-09-10)

D2: WO 99 39468 A (EDVARDBSEN EINAR ;TELENOR AS (NO);ORMHAUG
TERJE EDVARD (NO)) 5 August 1999 (1999-08-05)

1. Lack of inventive step (Article 33(3) PCT) for claims 1-10

- 1.1 The subject-matter of independent claim 1 does not seem to involve an inventive step, because document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to D1) a method of transporting a first data stream of a first bit rate (this is represented in D1 by the ATM payload, see for example page 6 ln. 6) through a SDH network from a first endpoint to a second endpoint (see "transmission of ATM information over a SDH network" on page 1, ln. 1-3) using TDM (D1 refers to both cases of PDH mapped on SDH and ATM mapped on SDH, this is to be derived from page 6 ln. 3 to 9, see in particular "within the SDH multiplexer, an 8 Mbit/s payload for example would be mapped into 4 x 2 Mbit/s, each 2 Mbit/s in turn then being mapped into an SDH virtual container VC of appropriate size, VC-12, for onward transmission. Alternatively, the ATM payload could be mapped directly and more efficiently into each of the SDH VC-12"), comprising:
- demultiplexing the first data stream from the first endpoint onto a number of parallel streams each having a second data stream (see "adaption of a stream of any ATM cells into multiple parallel streams, each to be borne over circuits 1.5 or 2 Mbit/s", see page 1 ln. 16-17),
- mapping each of the second data streams into data and/or unused overhead bit positions of SDH specified data containers ("the ATM payload could be mapped directly and more efficiently into each of the SDH VC-12, allowing some of that payload to be carried by what otherwise would be "overhead" or control bytes for

the mapping of each 2 Mbit/s into its VC-12", see page 6, ln. 6-9), multiplexing the data containers into the SDH switched network ("The placing of the ATM inverse multiplexer in the SDH multiplexer gives the advantage that a single physical interface can be used between the ATM switch and the SDH multiplexer, carrying a variable payload with in the case shown is 8 Mbit", see page 7 ln. 6-10).

The subject-matter of claim 1 differs in that the second data stream of 2 Mbit/s disclosed in D1 is more specifically an SHDSL line.

The problem solved by this distinguishing feature is to provide an alternative way of fragmenting the first data stream into 2Mbit/s streams.

But choosing this particular transmission standard among all the possible E1-based transport techniques is merely a choice within a set of several straightforward possibilities and the skilled person would select this option without the exercise of inventive skill, in order to solve the problem posed. Therefore claim 1 is not considered to be inventive.

Moreover, D2 discloses in a similar context (Inverse Multiplexing of ATM traffic over 2 Mbit/s lines, see page 4 ln. 1-4) the use of "a number of single subscriber twisted pairs ... by utilization of advanced coding and modulation equipment, e.g. of the type as standardised and described for HDSL, ..." (see claims 1 and 2 of D2). The skilled person set off to the problem above would become aware of the disclosure of D2 and would use HDSL transport lines for fragmenting the ATM traffic as suggested by D2, which are then rate/format-adapted and multiplexed into an SDH network as disclosed in D1, arriving thus to the subject-matter of claim 1 without involving any inventive step.

1.2 The additional features of dependent claim 2 is also disclosed in D1 (see "A corresponding inverse multiplexer for the complementary process would be needed at the far end of the data path" on page 4, ln. 6-7), thus claim 2 is also not inventive.

1.3 The additional features of claims 3 and 4 represent standard operation and

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maintenance techniques which fall within the customary practice of the skilled person when aiming at synchronizing/monitoring data streams.

- 1.4 The additional features of claims 5 and 8 are also disclosed in D1 (see VC-12 and 8 Mbit/s payload on page 6), therefore are not considered to be inventive.
- 1.5 Claims 6 and 9 are merely some implementation details of the procedure above: to specify which exact overhead positions in the C-12 are used to accommodate the second streams is a straightforward option for the skilled person.
- 1.6 Regarding claim 7, D2 discloses the use of four HDSL lines to transport a 8 Mbit/s payload, therefore claim 7 is not inventive.
- 1.7 Finally, the rates indicated in claim 10 are merely some possibilities based on the HDSL transport capabilities and standards, therefore claim 10 is also not considered to be inventive.